



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

00000000

REPLY TO THE ATTENTION OF

SE-5J

**MEMORANDUM**

**DATE:** AUG 31 2001

**SUBJECT:** ACTION MEMORANDUM - Request for a Time Critical Removal Action at the Western Forge Works Site, East St. Louis, St. Clair County, Illinois  
Site ID # B5U7

**FROM:** Kevin R. Turner, On-Scene Coordinator  
Emergency Response Section 2  
Michael D. Harris, On-Scene Coordinator  
Emergency Response Section 2  
Thomas Cook, On-Scene Coordinator  
Emergency Response Section 3

EPA Region 5 Records Ctr.



247900

**TO:** William E. Muno, Director  
Superfund Division

**THRU:** Richard Karl, Chief  
Emergency Response Branch,  
Superfund Division

**I. PURPOSE**

The purpose of this memorandum is to request approval to expend up to \$202,584 to abate an imminent and substantial threat to public health and the environment present at the Western Forge Works Site (the "Site"), East St. Louis, St. Clair County, Illinois (Latitude - 38° 37'28.5" North and Longitude - 90° 08'11" West). This action is necessary to mitigate the immediate threat to public health and the environment posed by the presence of uncontrolled hazardous substances on Site, including soils containing elevated levels of lead.

The response action proposed herein will mitigate Site conditions by removal and off-site disposal of the contaminated soil. The high levels of lead in surface soil at concentrations considered hazardous, the Site's proximity to residential properties and other businesses requires that this action be classified as a time critical removal. The project will require an estimated working 15 days to complete.

There are no nationally significant or precedent setting issues associated with the Western Forge Works Site. The Western Forge Works Site is not on the National Priorities List (NPL).

## **II. SITE CONDITIONS AND BACKGROUND**

### **CERCLIS ID# ILN000508195**

#### **A. Site Description**

##### **1. Site history**

The Site is the former location of Western Forge Works, a metal forging business formerly located in the currently abandoned lot east of a daycare center. No other information has been provided concerning the Site's operating history. The owners of the Site since 1992 are Clifton and Regina Moore, who reside at 3700 State Street in East St. Louis, Illinois.

##### **2. Physical location**

The Western Forge Works Site is located on the south side of St. Clair Avenue between 16<sup>th</sup> and 18<sup>th</sup> Streets in East St. Louis, Illinois, at latitude 38° 37'28.5" North and longitude 90° 08'11" West. The Site is located in a mixed residential and commercial area. An elementary school is located south of the Site, which is bordered by residences on all sides and a daycare center to the west.

According to the Region 5 Superfund Environmental Justice Analysis, the group of residents closest to the Site reside in census tract #5006, block group #1. This block group has a total population of 181. Of the 181, 100% are classified as minority. Approximately 64% of the families residing in this block group have an income of less than the established State low income level. The demographic conditions indicate an environmental justice priority for the community around this Site.

##### **3. Removal Site evaluation**

Site assessment activities were conducted at the Western Forge Works Site on 24<sup>th</sup> and 25<sup>th</sup> of April 2001. The START field crew consisted of Joe Parish, Art Currier, Brian Schlieger, and Jason Massey from Tetra Tech, and Keith Hughes from Project Resources, Inc. (PR). U.S. EPA on-scene coordinators (OSC) included Kevin Turner, Mike Harris, and Tom Cook.

START was tasked to document Site conditions, collect soil samples, and prepare and submit samples for laboratory analysis. PR was tasked to screen the Site with a NITON™ x-ray fluorescent (XRF) spectrometer.

The PR field crew marked the Site into a loose grid, and potentially sensitive areas identified by

the OSC for sampling were indicated using survey flags or marking paint. During the 2 days of this investigation, XRF spectrometer readings (with 95 percent upper and lower confidence limits) were taken at each grid location (approximately every 30 to 50 feet) and at marked or flagged locations on bare soil that had been cleared of vegetation and humus. Off-Site locations at sensitive areas, such as residential yards, were also chosen by the OSC for sampling, flagged or marked, and screened using the XRF spectrometer.

The PR field crew took XRF spectrometer readings for lead, which were compared with the U.S. EPA Region 9 preliminary remediation goal (PRG) for residential soil. The guidelines below were generally followed, but the samples submitted for laboratory analysis and parameters analyzed for were chosen by the OSC. Locations where XRF spectrometer readings for lead exceeded the PRG of 400 milligrams per kilogram (mg/kg) were marked as potential sampling points for laboratory analysis of Resource Conservation and Recovery Act (RCRA) metals. Locations where XRF spectrometer readings exceeded 1,000 ppm for lead were marked for auger sampling to a depth of 24 inches below ground surface (bgs). At sampling locations 023-04 and 023-05, soil samples were screened with the XRF spectrometer at increments of 6 inches. Screened samples that had contained the highest lead levels (samples 023-06 and 023-07) were analyzed for RCRA metals, toxicity characteristic leaching procedure (TCLP) lead, polychlorinated biphenyls (PCB), semivolatile organic compounds (SVOC), volatile organic compounds (VOC), and pH.

On April 25, 2001, the START field crew collected samples using a stainless-steel auger and homogenized in pie pans for field screening at the ground surface and in increments of 6 inches down to 12 inches bgs. The auger was decontaminated after collection of each sample using Alconox and water with a final, deionized water rinse. Selected samples were placed in sample containers and submitted for laboratory analysis based on the field screening results and at the discretion of the OSC. Based on field screening results, no samples were collected from below 6 inches bgs. Site assessment field work was completed on April 25, 2001. Samples were stored on ice and submitted to the Environmetrics, Inc. laboratory in St. Louis, Missouri, on April 27, 2001.

## **B. State and Local Authorities' Role**

### **1. State and local actions to date**

The Western Forge Works Site came to the Removal Branch's attention through the Gateway Team. The Gateway Team funded the Illinois Department of Public Health (IDPH) to do soil lead screening in the town of East St. Louis. IDPH targeted old industries in its sampling efforts. The Gateway Team, through the direction of Noemi Emeric with U.S. EPA, convened an ad hoc group targeting lead as a contaminant of concern for East St. Louis. This group, which included St. Mary's Hospital, collected blood lead data from children in East St. Louis. The Removal Branch became involved based on the IDPH sample results showing high soil lead data in old industrial areas bordering residential areas (as high as 30,000 ppm) and the St. Mary's study showing children with elevated blood lead levels.

### **III. THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES**

The conditions at the Western Forge Works Site present an imminent and substantial threat to the public health, or welfare, and the environment and meet the criteria for a removal action provided for in the National Contingency Plan (NCP), Section 300.415, Paragraph (b)(2). 40 C.F.R. § 300.415(b)(2)(I), (iii) and (v), respectively, specifically allows removal actions for:

- 1) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

The Site is located in a mixed residential and commercial area. An elementary school is located south of the Site, which is bordered by residences on all sides and a daycare center to the west. The IDPH documented the presence of lead in soil above health standards both on the former facility and in the surrounding neighborhood. The health concerns at this Site are related to the uncontrolled access to the property, the proximity of the former facility to a grade school and day care center and the evidence of trespassing on the property by the local residents, potentially exposing young children, pregnant women and elderly individuals to high levels of lead contamination.

The effects of lead exposure are more severe for young children and the developing fetus through exposure to a pregnant woman. The harmful effects of lead included premature births, lower birth weight, decreased mental ability in the infant, learning difficulties, and reduced growth in young children. In adults, lead increases blood pressure, induces anemia as a result of the inhibition of hemoglobin synthesis, decreases reaction time, affects memory, and damages the male reproductive system. Lead is also considered by U.S. EPA to be a class B2 or probable human carcinogen. Toxicity information is summarized in the references, ATSDR, 1993 and U.S. EPA, 2000.

Lead was found wide spread throughout the Site, with most of the area above the U.S. EPA Site specific action level of 400 ppm for residential land use scenarios. The residential lead standard is being used for this former industrial Site because of the current land use. The highest concentration of lead detected by the IDPH was 1,217 ppm and by the U.S. EPA at 5,720 ppm. Though St. Mary's Hospital blood lead screening effort has not yet reached this immediate neighborhood the extent of elevated lead in soil requires this proposed action.

In Illinois, the Illinois Department of Public Health guidelines state that any child with a blood lead level between 10 and 14 µg/dL is tested again in a few months. If the confirmed blood level is at least 15 µg/dL, case follow-up is conducted. St. Mary's Hospital has agreed to take on the responsibility to continue testing within East St. Louis. IDPH recommends that remediation efforts be initiated on the basis of the high levels of lead found in the surface soils. Since the neurological effects on young children and the developing are considered to be irreversible, even short term exposures to elevated lead levels are of a public health concern. Given the exposure scenarios and lead concentrations at this site as compared to other sites in the Gateway area that

have had children's blood lead levels analyzed, it is expected that the children exposed to soils at the Western Forge Works will also likely have elevated blood lead levels as well.

References:

ATSDR. 1993. Toxicological Profile for Lead. Agency for Toxic Substances and Disease Registry, Division of Toxicology. Atlanta, GA. U.S. Department of Health and Human Services, Public Health Service.

U.S. EPA. 2000. Integrated Risk Information System (IRIS). Database information located at <http://www.epa.gov/iris/subst/index.htm>; U.S. Environmental Protection Agency.

- 2) Hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate or pose a threat of release;

The IDPH and U.S. EPA XRF and analytical data documented total lead levels to be greater than 5,700 ppm at the surface and greater than 3,600 ppm at a depth of six inches. The U.S. EPA Site Assessment confirmed IDPH sampling results and further documented that elevated levels of lead exist on Site and within the surrounding residential properties.

The Site has no fences, warning signs, or other barriers to prevent public access. During the April, 2001, U.S. EPA Site Assessment, it was observed that children from the grade school used the former Western Forge Works property as a pass through on their way to and from school. In addition, children would cross property boundaries as they played during recess at the school's playground. Due to the general use of the property by the local population, people could cause dust particles containing lead to further migrate off Site via their shoes and to the surrounding residential neighborhoods.

Sampling revealed elevated lead levels at nearby residences and adjacent properties. These properties often had no vegetative cover and had children playing in the yard. The exposure pathways for this Site consist of (1) direct contact with contaminated soil and (2) inhalation of airborne contaminants through windblown particulate matter.

- 3) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

During the Site Assessment, the OSC observed children playing in and around the former Western Forge Works property. IDPH and U.S. EPA have documented that high levels of lead exists on the ground surface and down to a six inch depth. Heavy rains may cause further migration of contaminants off site. Winds could cause dust particles containing heavy metals to migrate into the surrounding community. These weather conditions could result in a continued release of lead described herein to the surrounding soil and air.

- 4) The availability of other appropriate federal or state response mechanisms to respond to the release.

As a member of the East St. Louis Lead Collaborative Partnership, the U.S. EPA has been asked to assist with clean up efforts in the surrounding neighborhood and at the Western Forge Works Site. This Site, as well as other Sites in the area, are a part of a cooperative effort to limit exposure to elevated lead for sensitive populations in East St. Louis. The Illinois Department of Public Health and the U.S. EPA - Region 5 Gateway Initiative asked the U.S. EPA - Region 5, Removal Program to proceed with a time-critical removal action at the Western Forge Works Site. The City of East St. Louis have also indicated their desire to see this Site cleanup completed and to return the property to productive use. Neither the State of Illinois nor the City of East St. Louis has the funds to undertake removal of the elevated lead found at this Site.

#### **IV. ENDANGERMENT DETERMINATION**

Given the conditions at the Western Forge Works Site, the nature of the hazardous substances on Site, and the potential exposure pathways described in Sections II and III above, actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions selected in this Action Memorandum, present an imminent and substantial endangerment to public health, or welfare, or the environment.

#### **V. PROPOSED ACTIONS AND ESTIMATED COSTS**

The OSC proposes to undertake the following actions to mitigate threats posed by the presence of hazardous substance at the Western Forge Works Site:

- 1) Develop and implement a Site Health and Safety Plan, including an air monitoring plan and Site contingency plan;
- 2) Develop and implement a Site security plan;
- 3) Characterize, remove and properly dispose of hazardous substance and wastes (contaminated soils) located at the Site in accordance with U.S. EPA's Off-Site Rule (40 CFR 300.440);
- 4) Backfill the excavated areas with clean material and topsoil. Restore and vegetate to prevent soil erosion;

The OSC Has initiated planning for provision of post-removal Site control consistent with the provisions of Section 300.41 5(I) of the NCP. The nature of this removal action, as well as the complete removal of all hazardous substance from the Site, will eliminate the need for any post removal Site control.

The estimated costs to complete the above activities are summarized below. These activities will require an estimated 15 working days to complete.

The detailed cleanup contractor cost estimate is presented in Attachment A and estimated project costs are summarized below:

## REMOVAL PROJECT CEILING ESTIMATE

### EXTRAMURAL COSTS:

Cleanup Contractor	\$126,018
Cleanup Contingency (15%)	\$ 18,902
START	\$ 9,900

Extramural Subtotal	\$154,820
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Extramural Contingency (20%)	<u>\$ 30,964</u>
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TOTAL EXTRAMURAL COSTS	\$185,784
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### INTRAMURAL COSTS:

U.S. EPA Direct Costs	\$ 5,460
\$30 X [(180 Regional Hours)+ 2 HQ Hours]	

U.S. EPA Indirect Costs	<u>\$ 11,340</u>
\$63 X (180 Regional Hours)	

TOTAL INTRAMURAL COSTS	<u>\$ 16,800</u>
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TOTAL REMOVAL PROJECT CEILING ESTIMATE	<u><u>\$202,584</u></u>
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The response actions described in this memorandum directly address the actual or threatened release at the Site of a hazardous substance, or of a pollutant, or of a contaminant which may pose an imminent and substantial endangerment to public health or welfare or to the environment. These response actions do not impose a burden on affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

### Applicable or Relevant and Appropriate Requirements

All applicable, relevant, and appropriate requirements (ARARs) will be complied with to the extent practicable. A letter was sent on August 14, 2001 to Bruce Everetts of the Illinois EPA requesting that the Illinois EPA identify State ARARs. Any State or federal ARARs identified in a timely manner for this removal action will be complied with to the extent practicable.

## **VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

Continued risk to public health and the environment will result if no action of delayed action ensues.

## VII. OUTSTANDING POLICY ISSUES

None.

## VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this Site is contained in an Enforcement Confidential Addendum (see Attachment B).

## IX. RECOMMENDATION

This decision document represents the selected removal action for the Western Forge Works Site, East St. Louis St. Clair County, Illinois, developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the Site (see Attachment C). Conditions at the Site meet the criteria of the NCP, 40 C.F.R. § 300.415 (b)(2) for a removal action, and we recommend your approval of the proposed removal action. The total estimated project ceiling, if approved, will be \$179,901.68. Of this, an estimated \$163,101.68 may be used for cleanup contractor costs. You may indicate your decision by signing below:

APPROVE : W. E. Myer DATE: 8/31/01  
Superfund Division Director

DISAPPROVE: \_\_\_\_\_ DATE: \_\_\_\_\_  
Superfund Division Director

### Attachments:

- A. Detailed Cleanup Contractor Estimate
- B. Enforcement Confidential Addendum
- C. Administrative Record Index
- D. Site Area Map



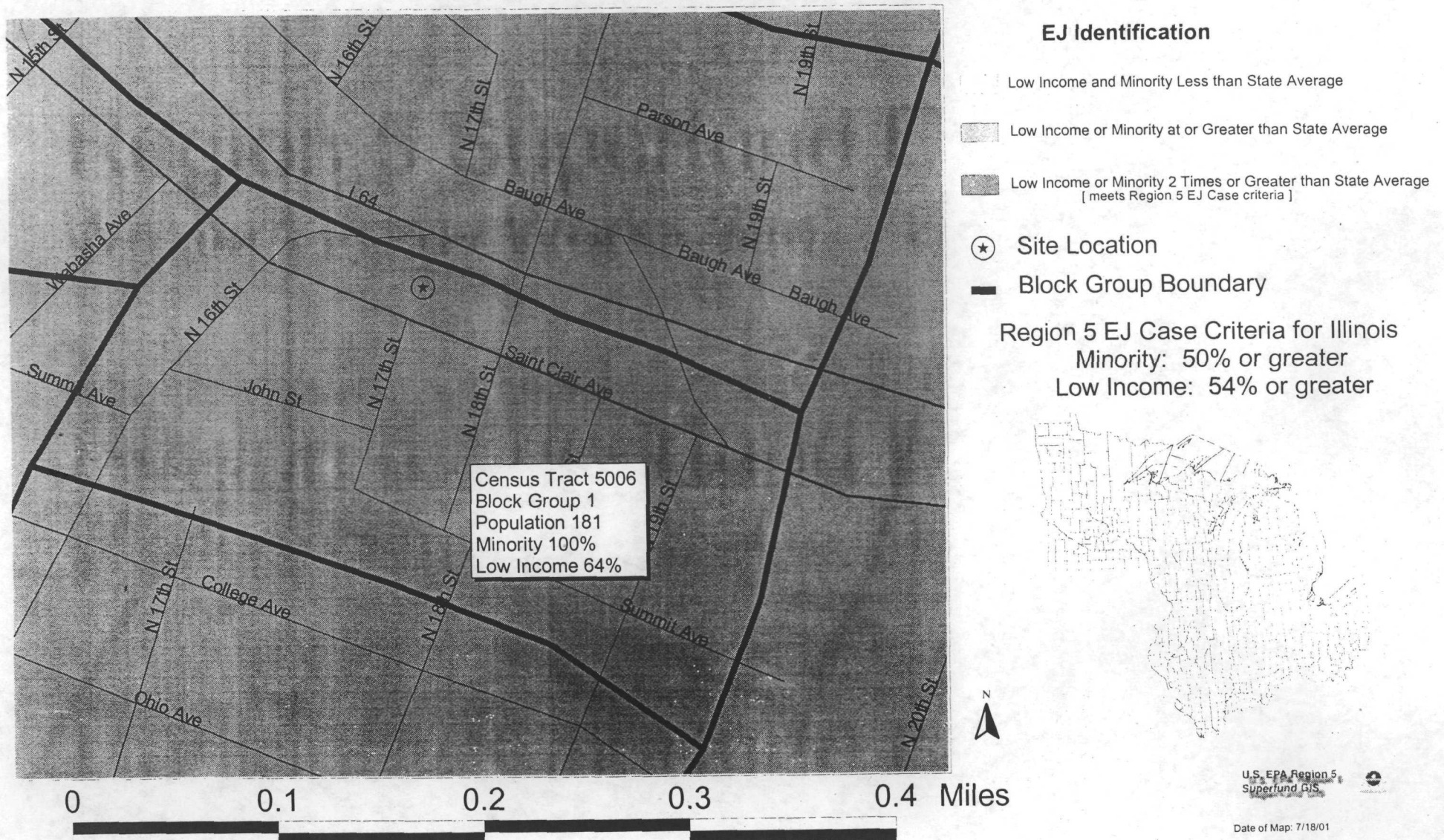
Attachments:

- A. Detailed Cleanup Contractor Estimate
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- C. - Administrative Record Index
- D. Site Area Map

cc: C. Stanton, U.S. EPA HQ, 5202G  
M. Chezik, U.S. Department of Interior, **w/o Enf. Addendum**  
B. Everetts, IL EPA, **w/o Enf. Addendum**  
R. Cipriano, IL EPA, **w/o Enf. Addendum**  
S. Davis, IL DNR, **w/o Enf. Addendum**

# Region 5 Superfund EJ Analysis

## Western Forge Works Site East St. Louis, IL



## **Attachment A**

### **DETAILED CLEANUP CONTRACTOR ESTIMATE WESTERN FORGE WORKS SITE EAST ST. LOUIS, ST. CLAIR COUNTY, ILLINOIS AUGUST 2001**

The estimated cleanup contractor costs necessary to complete the removal action at the Western Forge Works Site are as follows:

Personnel	\$55,360.12
Equipment	31,807.95
Subcontractors	13,600.00
Transportation and Disposal	<u>25,250.00</u>
<b>TOTAL</b>	<b>\$126,018.07</b>

**ATTACHMENT B**

**ENFORCEMENT ADDENDUM  
WESTERN FORGE WORKS SITE**

**AUGUST 2001**

**1 PAGE**

**HAS BEEN REDACTED**

**NOT RELEVANT TO THE SELECTION  
OF THE REMOVAL ACTION**

## ATTACHMENT C

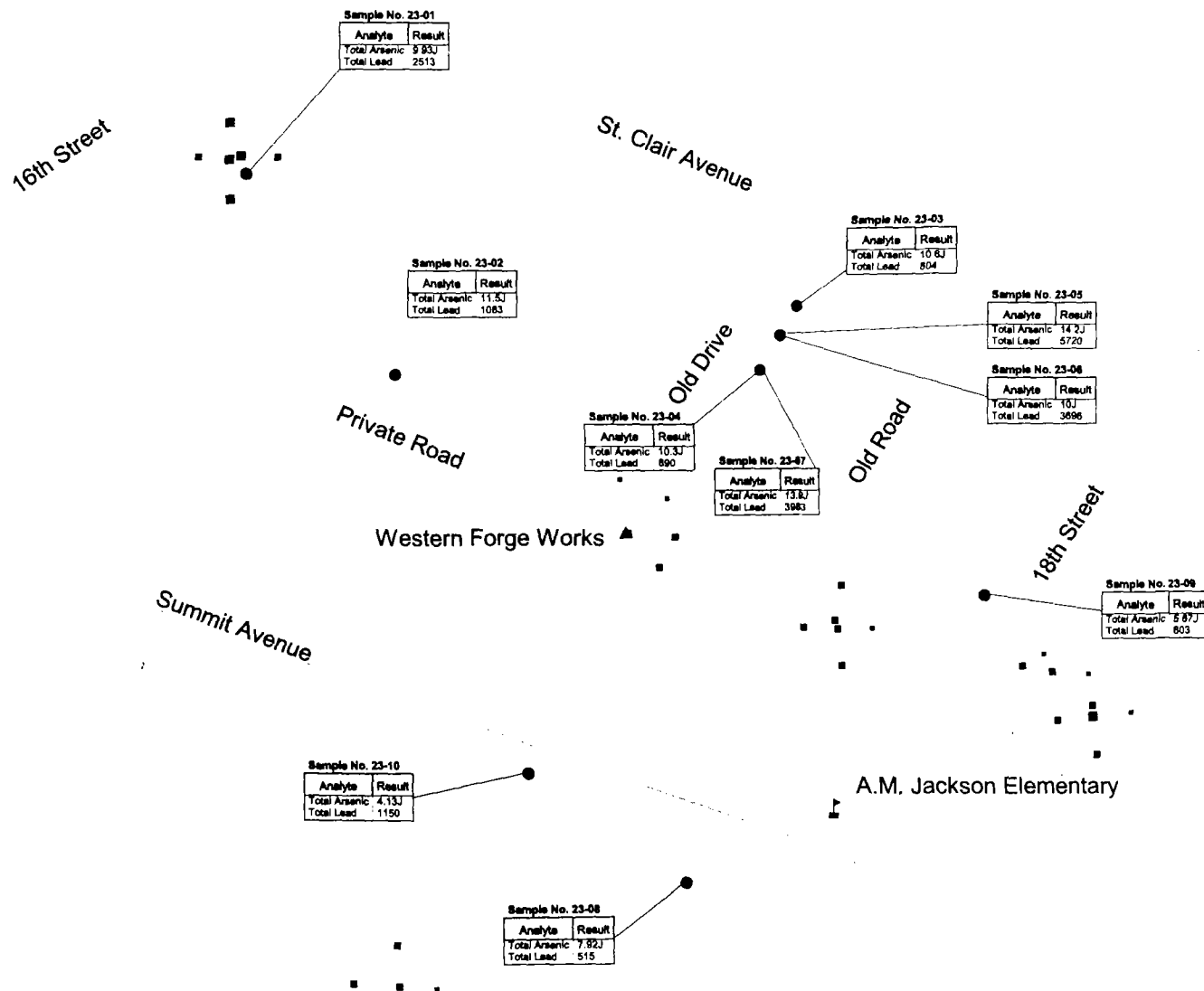
### U.S. ENVIRONMENTAL PROTECTION AGENCY REMOVAL ACTION

#### ADMINISTRATIVE RECORD INDEX FOR WESTERN FORGE WORKS SITE EAST ST. LOUIS, ST. CLAIR COUNTY, ILLINOIS

ORIGINAL  
AUGUST 22, 2001

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	06/14/01	Tetra Tech EM, Inc.	U.S. EPA	Site Assessment Report for the Western Forge Works Site	52
2	00/00/00	Turner, K., M. Harris, & T. Cook, U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Request for a Time Critical Removal Action at the Western Forge Works Site ( <b>PENDING</b> )	

**Attachment D**



#### Legend:

- May 2000 Soil Sample Containing Metals Exceeding U.S. EPA Region 9 PRGs (mg/kg)

#### 1st Phase Soil Sample Results (ppm)

- 0-399
- 400-999
- 1000-4999
- 5000-9999
- >10,000

#### 2nd Phase Soil Sample Results (ppm)

- 0-399
- 400-999
- 1000-4999
- 5000-9999
- >10,000

#### Roads

#### Blood Lead Results (ug/dl)

- 0 - 9.99
- 10 - 19.99
- 20 - 40

#### Note:

\* J = Estimated value, less than method detection



100 0 100 Feet

#### Metro East Lead Project Western Forge Works Vicinity



Tetra Tech EM Inc.  
11116 South Towne Square, Suite 303  
St. Louis, Missouri 63123  
(314) 882-6322

